

## PATENT SPECIFICATION

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## COMPLETE SPECIFICATION

## Improvements in and relating to Tooth Brushes

I, ECON HOLZBOCK, of Kurfürstenstrasse 102, Berlin, Germany, of German nationality, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to tooth brushes and has the object of providing a brush which will meet the requirements of the modern care of the teeth.

Tooth brushes have been proposed, comprising an adjustable concave brush body and a handle rotatably mounted upon the centre of the brush body so as to be capable of adjustment to a parallel, right angle or inclined position thereon, so as to enable the front as well as the back surfaces of the teeth and the interstices to be efficiently cleaned by brushing in a horizontal direction as well as vertically in the direction of the teeth, the said brush body being provided with bundles of bristles extending therefrom substantially radially.

The tooth brush according to the present invention comprises an S-shaped handle, the front part of which is curved to correspond to the curve of the teeth and one or more bundles of bristles rotatably arranged on the said curved front part of the handle at right-angles thereto.

It is advantageous to allow the bristles to act in an inclined position so that the effective surfaces of the cup-like brushes are mainly to their edges which are the most effective part. At the same time by this means there is a reduction of the natural braking effect on the teeth and an increase of the circular movement. In order to ensure this action the front part of the holder which carries the bristles may be specially constructed either by being turned with respect to the handle part or by having an inclined surface for setting the bristles.

Several constructional examples are illustrated in the accompanying drawing. Fig. 1 is an elevation partly in section of the new brush.

Fig. 2 is a section on the line II—II of Fig. 1.

Fig. 3 is a section on the line IV—IV of Fig. 1.

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of Fig. 1 on a larger scale,

Fig. 4 is a section through a part of a brush holder with rotatable bundles of bristles arranged in depressions on a larger scale,

Fig. 5 is an elevation of a helical construction for the brush handle,

Fig. 6 shows a brush holder in which the part holding the bristles is turned with respect to the handle,

Fig. 7 shows a brush holder with inclined construction of the front part of the holder which carries the bristles.

Fig. 8 is a section on the line IX—IX of Fig. 7.

Referring to the drawings, the actual brush holder *a* is made approximately S-shaped and its front part carrying the bundle of bristles is curved corresponding to the curve of the teeth. This construction has the advantage, in addition to those mentioned above, that it makes possible a convenient cleaning of the inner surfaces of the teeth.

The brush holder *a* in the construction according to Fig. 1 carries rotatably two bundles of bristles *b*, the axes of which are at right angles to the curve of the holder so that the two bundles of bristles *b* converge. The bundles of bristles *b* are preferably made cup-shaped and at the upper edge *c* (Figs. 3 and 4) are somewhat inclined inwardly. The handle *a* has, approximately at the place where the thumb of the person using the brush would lie, a depression *d* which is also shown in Fig. 2 in section. By means of this depression the person using the brush is caused to tilt it through about 25—30° so that the effective surfaces of the cup-like brushes are confined mainly to their edges which are the most effective parts. In this way, when the brush is in use, there is a reduction of the natural brake action on the teeth and an increase in the circular movement.

Fig. 3 shows one mode of assembling and mounting the bundles of bristles. On the brush handle *a*, by means of a bolt *f*, rotatable cups *g* are secured, which preferably consist of non-corroding material. In these cups *g* are placed the bristle bundles *b*. These are made cup-

shaped by the bristles being bent in the middle in a known manner and the bristles thus placed one within another are held by means of the plate *h*. This plate *h* is made as small as possible in order to obtain a thick bristle bundle *b*. This bristle bundle is inclined inwardly at the upper edge as shown at *c*.

A similar construction is shown in Fig. 4 with the difference that the rotatable cup *k* containing the bristle bundle *b* is arranged in a depression in the brush handle *a*. This has the advantage that the height is reduced so that it is made possible to manipulate the tooth brush more conveniently and more effectively.

Fig. 5 shows a particular helical construction for the handle of the brush holder. By this means the same result is to be obtained as with the depression *d* in the constructional form shown in Figs. 1 and 2.

In the construction according to Fig. 6, in order to obtain the inclined position of the bristles, the front part of the holder which carries them is twisted with respect to the handle part. This has the advantage, for example as compared with the construction in Fig. 5, that the brush handle has the hitherto usual form and the desired inclined position of the bundles of bristles when the brush is in use is ensured.

The construction according to Figs. 7 and 8 serves the same purpose, the front part of the holder in this case having an inclined surface for the bundles of bristles mounted on it.

Having now particularly described and

ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A tooth brush, characterised by the feature that it comprises an S-shaped handle, the front part of which is curved to correspond to the curve of the teeth and one or more bundles of bristles rotatably arranged on the said curved front part of the handle at right-angles thereto.

2. A tooth brush as claimed in Claim 1, characterised by the feature that the bundles of bristles with their holding devices are arranged in depressions in the handle.

3. A tooth brush as claimed in Claim 1 or 2, characterised by the feature that the handle has a depression at the place where the thumb would lie.

4. A tooth brush as claimed in Claim 1 or 2, characterised by the feature that the handle part of the brush holder is made helical.

5. A tooth brush as claimed in Claim 1 or 2, characterised by the feature that the part of the holder carrying the bundles of bristles is turned with respect to the handle part.

6. A tooth brush as claimed in Claim 1 or 2, characterised by the feature that the front part of the holder which is set with the actual brushes has an inclined bearing surface for the brushes.

7. The improved tooth brush substantially as hereinbefore described with reference to the accompanying drawing.

- Dated this 24th day of December, 1937.  
MARKS & CLERK.

Fig. 2

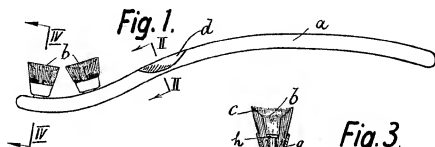


Fig. 1.

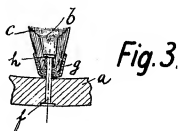


Fig. 3.

Fig. 4.

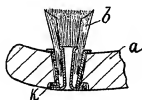


Fig. 6.



Fig. 5.

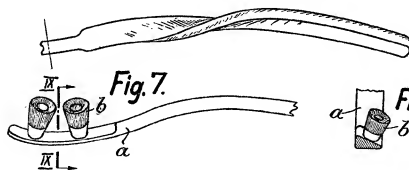


Fig. 7.



Fig. 8.

[This Drawing is a reproduction of the Original on a reduced scale.]